REMARKS

Initially, Applicant again notes that the previous Official Action incorrectly attributed the filing date of an Information Disclosure Statement as November 19, 2001 rather than the actual filing date of February 19, 2002. In this regard, Applicant notes that no Information Disclosure Statement was filed on November 19, 2001, and the only Information Disclosure Statement filed for the present application prior to the date of the previous Official Action was filed on February 19, 2002. Applicant further notes that November 19, 2001 is the filing date of the present application.

Further, the previous Official Action indicated that several of the Japanese language documents cited in the Information Disclosure Statement were not considered "because no English language translation was provided of these documents". In this regard, Applicant notes that there is no requirement that an Applicant submit English language translations of Japanese language documents; rather, the Japanese language documents cited in the Information Disclosure Statement were submitted in full compliance with all statutory and regulatory requirements that apply to the citation to such documents in an Information Disclosure Statement, including 37 C.F.R. 1.98. In particular, an English language abstract of each of these documents was provided, thus satisfying the requirement for a statement of relevance.

Accordingly, the Examiner of the present application is again respectfully requested to consider and cite each of the documents listed on the PTO-1449 Form which was attached to the Information Disclosure Statement filed on February 19, 2002. The Examiner is requested to initial the appropriate spaces on the above-noted PTO-1449 Form and to return a copy of the Form to the Applicant with the next official communication in the present application to confirm consideration of these documents.

Applicant further notes that a Supplemental Information Disclosure Statement

was submitted on November 21, 2005 (i.e., subsequent to the date of the outstanding Official Action), and a further IDS is being filed concurrently herewith. Accordingly, with the next Official Action, Applicant respectfully requests that the Examiner of the present application acknowledge consideration of each of the references cited on the PTO-1449 Form submitted with the above-noted Supplemental Information Disclosure Statements.

In the outstanding Official Action, claims 5-6 and 11-12 were rejected under 35 U.S.C. §103(a) over McVEY (U.S. Patent No. 6,574,286) in view of THORSON (U.S. Patent No. 6,101,225). Claims 7-8 and 10 were rejected under 35 U.S.C. §103(a) over McVEY in view of THORSON, and further in view of the "instant application's disclosed prior art". Although the cover sheet of the outstanding Official Action indicated that claim 9 was rejected, there was no indication in the outstanding Official Action as to the basis of any rejection of claim 9. Accordingly, with the next Official Action, Applicant respectfully requests clarification of the basis of the rejection of claim 9.

Upon entry of the present amendment, Applicant will have cancelled claims 5-12 without prejudice to or disclaimer of the subject matter recited therein. Claims 13-20 will have been added for consideration by the Examiner. Applicant submits that cancellation of claims 5-12 should not be considered an indication of Applicant's acquiescence with the propriety of the outstanding Official Action. Rather, Applicant has canceled claims 5-12 merely in order to expedite prosecution of the present application and to obtain early allowance of claims. Accordingly, Applicant respectfully submits that the rejection of each of claims 5-12 has been rendered moot.

Applicant traverses the outstanding rejections. In this regard, according to an aspect of the disclosed invention, a QPSK signal is composed of combinations of +1s and -1s (expressed in signed binary) and the phase offset Θ, whereby the phase offset Θ is a multiple of 90 degrees implemented through sign inversion alone (that is,

inversion of + and -). The phase offset calculation through sign inversion is performed with the QPSK signal before amplitude adjustment calculation.

In comparison, with reference to the IQ diagram shown in FIG. 6 of McVEY, when an I component and a Q component are shifted from the background of an IQ axis (shown in FIGs. 8A-D), adjustment is made by offset, IQ phase and IQ gain.

Further, THORSON is directed to shifting the phase of a first phase reference signal 90 degrees from a second phase reference signal, and executing modulation by first and second modulators based on the generated first and second phase reference signals. The quadratures (Q) and in-phase (I) carrier signals are shifted 90 degrees from each other.

In contrast to even the combined teachings of McVEY and THORSON, claim 13 recites a phase offset calculation circuit. The phase offset calculation circuit includes a sign inversion circuit that performs a sign inversion of input signed binary data to a phase offset θ ($\theta=90x+y$: $x=0, \pm1, \pm2, \pm3, \pm4$, $0<y<90$). The phase offset calculation circuit also includes an amplitude adjustment circuit that adjusts the amplitude of the phase offset signal after the sign inversion. The phase offset calculation circuit further includes a phase offset circuit that performs a phase offset calculation smaller than 90° with the signal output from the amplitude adjustment circuit.

In other words, the sign inversion circuit inverts/converts binary data to a phase offset ($\theta=90x+y$: $x=0, \pm1, \pm2, \pm3, \pm4$, $0<y<90$). The amplitude adjustment circuit adjusts the amplitude of the phase offset after sign inversion. The phase offset calculation circuit performs a phase offset operation less than 90 degrees with signals output from the amplitude adjustment circuit.

Even the combination of McVEY and THORSON would not result in the invention recited in the present claims. For example, the outstanding Official Action asserts at

page 3 that "Thorson teaches a method and apparatus for performing a modulation comprising using sign information signal to perform a phase change of 180° on the reference phase signals (Fig. 2, means 111 and 113; Col. 5, Lines 36-51)". However, as noted above, claim 13 recites "a sign inversion circuit that performs a sign inversion of input signed binary data to a phase offset θ (θ=90x+y: x=0, ±1, ±2, ±3, ±4, 0<y<90)". This is not taught by THORSON and, therefore, modifying McVEY with THORSON would not result in the above-noted feature recited in claim 13.

Further, the outstanding Official Action asserts that McVEY "teaches a modulation system comprising an amplitude adjustment circuit that adjusts the amplitude of the signal output from an applied phase offset (Fig. 1, means 80, 88, 44, 46, and 146). However, as noted above, claim 13 recites "an amplitude adjustment circuit that adjusts the amplitude of the phase offset signal after the sign inversion" (emphasis added). In this regard, there is no teaching in McVEY of the claimed amplitude adjustment circuit, and there is no proper motivation to modify McVEY to include such an amplitude adjustment circuit that adjusts the amplitude of the phase offset signal after the sign inversion.

Thus, as noted above, according to the invention recited in claim 13, a phase offset calculation through sign inversion is performed with the QPSK (signed binary) signal before an amplitude adjustment calculation. There is no such teaching in either McVEY or THORSON, and there is no proper motivation to modify McVEY to include such a teaching. Therefore, the only motivation to modify McVEY to include the above-noted combination of features would be improper hindsight motivation to obtain Applicant's claims in hindsight.

Accordingly, Applicant respectfully submits that claim 13 is allowable over even the combination of McVEY and THORSON. Applicant further submits that independent

claims 14, 16 and 20 are allowable for reasons similar to the above-noted reasons for the allowability of claim 13, as those reasons relate to similar recitations. Applicant further submits that claims 15 and 17-19 are allowable at least for depending, directly or indirectly, from an allowable independent claim, as well as for additional reasons related to their own recitations.

In view of the above-noted comments and remarks, Applicant respectfully requests an indication of the allowability of each of the claims now pending, at least because each of the claims now pending recites a combination of features previously indicated as allowable by the Examiner.

SUMMARY AND CONCLUSION

Applicant submits that the present application is in condition for allowance, and respectfully requests an indication to that effect. Applicant has canceled rejected claims without prejudice to or disclaimer of the subject matter recited therein, and has traversed the rejections with respect to the newly submitted claims. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejection, as well as an indication of the allowability of each of the claims now pending in due course.

The amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions, please contact the undersigned at the telephone number provided below.

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